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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/615,872	07/13/2000	Gowthami M. Arepally	2687-021/MC-166	4363

22208 7590 06/15/2004

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EXAMINER	
GRUN, JAMES LESLIE	
ART UNIT	**PAPER NUMBER**
1641	

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/615,872	AREPALLY ET AL.	
	Examiner	Art Unit	
	James L Grun	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 July and 19 Nov. 2002, 23 July 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) *7-11 and 15-39* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,12-14,40 and 41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/23/03: 8/28/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Technology Center 1600, Group 1640, Art Unit 1641.

The amendments filed 22 July and 19 November 2002 are acknowledged and have been entered. Claims 40 and 41 are newly added. Claims 1-41 remain in the case. Claims 7-11 and 15-39 have been withdrawn from further consideration as being drawn to a non-elected invention.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The specification is objected to and claims 1-6, 12-14, 40, and 41 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons of record, set forth with regard to the prior similar subject matter, that the specification contains subject matter which was not described in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, and which was not described in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, particularly the invention commensurate in scope with these claims.

Applicant's arguments filed 22 July 2002 have been fully considered but they are not deemed to be persuasive.

The offer of the assignee to submit a deposit in compliance with the criteria set forth in 37 CFR §§ 1.801-1.809 is noted but no such deposit is yet in evidence. A suitable deposit of the hybridoma would satisfy the enablement requirements of 35 U.S.C. § 112, first paragraph, for claims directed to the KKO hybridoma or antibodies produced thereby.

Applicant urges that "extensive" sequence data is disclosed, that the sequence of the heavy chain of the KKO antibody is that of Fig. 6A (i.e. SEQ ID NO: 11), rather than the mutated recombinant sequence of Fig. 7A (i.e. SEQ ID NO: 1), and that the KKO hybridoma expresses two different light chain sequences (i.e. SEQ ID NO: 2 and SEQ ID NO: 13). This is not found persuasive and would support the examiner's arguments of record that one would not know what sequences function in the invention in view of the entirely inconsistent description of the relevant structures. First, applicant's own arguments indicate that the heavy chain sequence should be SEQ ID NO: 11 not SEQ ID NO: 1 as is claimed. One of skill in the art would have sufficient reasons to doubt that the two different light chain sequences, now admitted as being produced by the KKO hybridoma, both bind the complex as is claimed, thus one would not know which to select for further modification and/or humanization. It is not clear if SEQ ID NO: 2 or SEQ ID NO: 13 is that which is functional. Applicant urges that the description of a single functional species, including the disclosure of sequence information, shows possession of, and sufficiently enables, the invention of the scope as claimed because each and every species of a genus need not be disclosed. Applicant also urges that screening methods are taught. This is not found persuasive for the reasons of record and those set forth above that one would not know or be able

to predict or envision what structure or modifications were important for function, particularly because one would not even know which of the two light chain sequences of the "single" disclosed antibody species was functional in the invention. As set forth, given the instant guidance and absent further unguided experimentation, one would not know or be able to predict or envision what variable region changes would predictably function in the invention other than those possessing both the intact V_H and V_L chains of the KKO antibody. Random experimentation within the huge genus embraced by applicant's claims with no predictability that a given antibody would function or not function in the invention is undue experimentation. Again, an enabling disclosure for the preparation and use of only a few analogs of a product does not enable all possible analogs where the characteristics of the analogs are unpredictable. Again a suitable deposit of the hybridoma would satisfy the enablement requirements of 35 U.S.C. § 112, first paragraph, for claims directed to the KKO hybridoma or antibodies produced thereby, but would not support the full scope of the invention as instantly claimed.

Claims 1-6, 12-14, 40, and 41 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1-6, 12-14, 40, and 41, "said binding...with either PF4 or heparin alone" lacks antecedent basis.

In claims 5 and 40, "wherein is said antibody is" is not clear.

Claims 40 and 41 are vague in the absence of recitation of deposit accession number to clearly identify the antibody/hybridoma because, absent the recitation of deposit accession number, it is not clear what structure and properties are encompassed by the named antibodies.

Applicant's arguments filed 22 July 2002 have been fully considered but they are not deemed to be persuasive. Notwithstanding applicant's assertions to the contrary, for the reasons set forth above applicant's amendments have not obviated rejections under 35 U.S.C. § 112, second paragraph.

Claims 1-6 and 40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Amiral (U.S. Pat. No. 5,466,582) in view of Blank et al (Clin. Exp. Immunol. 108: 333, 1997) for reasons of record in the prior rejection of the similar subject matter of claims 1-6.

Applicant's arguments filed 22 July 2002 have been fully considered but they are not deemed to be persuasive.

Applicant urges that Amiral does not teach or suggest a monoclonal antibody of the present invention. This is not found persuasive for the reasons of record. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e.: reactivity with a certain dose range of heparin; an antibody domain which binds the PF4-heparin complex; specific polypeptide sequences) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van*

Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In the instant case, for the reasons of record one would have had ample motivation and an expectation of success in eliciting monoclonal antibodies specific for the heparin drug-PF4 complexes desired as the antigen for detection of antibodies in the reference for use in the competitive assays of Amiral. Standard immunization techniques would have been expected to elicit the desired antibodies. Notwithstanding applicant's arguments to the contrary, the elicitation of the requisite antibodies is not limited by the method of Blank et al. Blank et al. is relied upon only to support the expectation of success because murine antibodies which bound to the complex were known to the art.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A SHORTENED STATUTORY PERIOD FOR REPLY TO THIS FINAL ACTION IS SET TO EXPIRE **THREE MONTHS** FROM THE MAILING DATE OF THIS ACTION. IN THE EVENT A FIRST REPLY IS FILED WITHIN **TWO MONTHS** OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE **THREE-MONTH** SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR REPLY EXPIRE LATER THAN **SIX MONTHS** FROM THE MAILING DATE OF THIS FINAL ACTION.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James L. Grun, Ph.D., whose telephone number is (571) 272-0821. The examiner can normally be reached on weekdays from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le, SPE, can be contacted at (571) 272-0823.

The phone numbers for official facsimile transmitted communications to TC 1600, Group 1640, are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application, or requests to supply missing elements from Office communications, should be directed to the Group receptionist whose telephone number is (571) 272-1600.

James L. Grun, Ph.D.
June 10, 2004

CHRISTOPHER L. CHIN
PRIMARY EXAMINER
GROUP 1800/1641